

Abstract

SEMICONDUCTOR DEVICE AND CORRESPONDING FABRICATION METHOD

A semiconductor device having a gate structure, the gate structure having a first gate dielectric made of a first material having a first thickness and a first dielectric constant, which is situated directly above the channel region, and an overlying second gate dielectric made of a second material having a second thickness and a second dielectric constant, which is significantly greater than the first dielectric constant; and the first thickness of the first gate dielectric and the second thickness of the second gate dielectric being chosen such that the corresponding thickness of a gate structure with the first gate dielectric, to obtain the same threshold voltage, is at least of the same magnitude as a thickness equal to the sum of the first thickness and the second thickness. The invention also relates to a corresponding fabrication method.